

## AQUIFER STORAGE AND RECOVERY

### Commentary

by

Neil Aikenhead, President  
Aikenhead & Odom Consulting Engineers

A bill was proposed during the 2001 Florida legislative session to modify Aquifer Storage and Recovery (ASR) rules in order to allow this historically-proven method of storing water to be used for the Comprehensive Everglades Restoration Program (CERP).

The Florida Dept of Environmental Regulation (FDEP) rules for ASR requires chlorination or other treatment to reach drinking-water quality before injecting water into an aquifer. The intent of the proposed legislation was to modify the rule and avoid having to change stormwater into drinking water, with the goal of keeping large quantities of stormwater from being lost to tide.

In the area of the CERP, water falls on the earth, runs into canals, and seeps into the Biscayne Aquifer. Some of that is then pumped, chlorinated, and sent to the public for consumption. The ASR scenario takes a portion of that same water, puts it below a confining aquifer lying below the Biscayne Aquifer for a period of time, and pumps it back to the surface some time later. Again some of that would find its way into the Biscayne Aquifer, and again some of it would be chlorinated and served to the public.

Work previously done on ASR clearly demonstrated storage of water underground, in a light-less and oxygen-less environment, created die-off of bacteria and viruses. The confining aquifer below the Biscayne Aquifer would be a separation from the supply, and the ASR process would actually end up improving conditions in the Biscayne Aquifer. Your basic "win-win"!

Then an interesting thing happened. The environmental community took up a vociferous position against this environmental-friendly proposal! It would improve quality of water served to the public, increase base flow to the Everglades, keep enormous quantities of fresh water from being lost to tide, and have a measurable effect on the national debt by saving literally billions of dollars for the CERP. How could the friends of the environment be opposed to such a measure?

The hidden agenda nobody had foreseen on was land acquisition. If ASR couldn't be used efficiently for the CERP, a lot more land would have to be purchased. The improvements to the environment, the ultimate improved effectiveness of the CERP, the improvements to the public health, and the improvements to our national finances all took second place to having Federal and State dollars buying environmentally-desirable land.



The attack on the ASR proposed legislation was so vociferous and thorough that the legislators and agencies who originally backed the bill literally leapt out of it's way!

On September 10 I attended an American Ground Water Trust conference on ASR held in Orlando. There were several excellent technical presentations made on virtually every aspect of the subject by a variety of presenters. The most memorable event of the conference, however, was before and after two dissenting-view presentations. Immediately prior to those presentations the news media entered the room, set up, and proceeded to video tape those dissenting views. Immediately after those presenters were finished, the news media wrapped up their stuff and left.

And the following day, September 11, 2001, our entire world changed in a few seconds!

A month later I attended a Florida Engineering Society (FES) Conservation and Environmental Quality (CEQ) committee meeting. This committee oversees the State's environmental issues on behalf of the FES membership. It is an esteemed group of technocrats who stay current with Statewide environmental issues, debating and discussing their political and social aspects.

I was shocked to learn that FES, FDEP, the American Water Works Association (AWWA), and numerous other respected individuals and associations knowledgeable in the ASR issue all appear ready to "throw in the towel". The feeling is that no ASR action will be taken in the 2002 legislative session, and even attempts to obtain variances on the existing ASR rule are expected to meet significant, and presumed successful, opposition.

The industry seems ready to settle for a five year "study" before anything further is proposed with ASR for the CERP. The CERP would have to progress with no ASR, or ASR with treatment as a minimum, for at least five years. This will subtract billions of dollars from State and Federal budgets, which budgets are now severely strained by more disconcerting matters. If ASR is used, saving "only" millions, it will require tons of chemicals which will be unnecessarily injected into our environment, coupled with the associated production impacts for those chemicals.

All so the Fed and State are required to buy more land. All at the direct monetary expense of each and every taxpayer. And all at the expense of the very environment which the environmental community claims to be protecting.

With billions of dollars and significant impacts to the environment and the public at stake, maybe the legislature should consider suspending the entire CERP for five years. Or at least until some equitable negotiated agreement is reached by those knowledgeable in the ASR issue.

At least there would be rational discussions between the parties. Stopping publication of blatantly false information would certainly be a positive result. How about improving the environment, providing better quality water to the public, and saving a billion or so dollars?

"United we stand"?